

Work Order ID 54149

December 1, 2009 12:42:36 PM



Page 1

Item ID: D117-762-011

Accept

Revision ID: A

Item Name: Skidtube

Start Date: 02/12/2009 Start Qty: 1.00

Required Date: 15/12/2009 Req'd Qty: 1.00

Reference:

Approvals: Process Plan: *[Signature]*

Date: 09/12-1

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Setup Start

Stop

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

N/A

Rev A

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile & type labels per PPP D117-762-011

CHC 7002
CHC 000

PERECN 08-574
Soboles

[Signature] for BG 09/12/16

110

0.00



Pick Kit

Packaging

Memo

0.00

Packaging

[Signature] 09/12/16 @

120

0.00



QC4- 100% Inspect kits for completeness

QC

Memo

0.00

Quality Control

⇒ 8 Soboles

[Signature]

B 54160

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 54149



Page 2

December 1, 2009 12:42:36 PM

Item ID: D117-762-011

Accept



Setup Start



Revision ID: A

Stop



Item Name: Skidtube

Start Date: 02/12/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 15/12/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		0.00							
	Packaging								
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D117-762-011								
	Location: _____								
	PPP Rev: <u>A</u>								
140		0.00							
	QC21- Final Inspection - Work Order Release								
QC	Memo	0.00							
Quality Control									

12/4/09 U

10/01/06 U

UNE 10-01-05

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 1

December 1, 2009 12:42:43 PM

Work Order ID: 54149

Parent Item: D117-762-011RevA

Parent Item Name: Skidtube

Comments:


Start Date: 02/12/2009


Required Date: 15/12/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	--------------------------	---------------	----------------	--------

AN3C4A		Purchased	No			120	Each	1,327.000	18.0000			
<div style="display: flex; justify-content: space-between;"> <div>  <p>BOLT</p> </div> <div> <p><u>Warehouse</u></p> <p><u>Location</u></p> <p>Main Warehouse</p> <p>ST</p> <p>112314</p> <p>112720</p> <p>112724</p> <p>112829</p> <p>112991</p> <p>113121</p> <p>113226</p> </div> <div> <p><u>Loc Qty</u></p> <p>1327</p> <p>13</p> <p>12</p> <p>3</p> <p>44</p> <p>39</p> <p>216</p> <p>1000</p> </div> <div> <p><u>Loc Code</u></p> </div> </div>												

AN6-52A		Purchased	No			120	Each	46.0000	2.0000			
<div style="display: flex; justify-content: space-between;"> <div>  <p>Bolt</p> </div> <div> <p><u>Warehouse</u></p> <p><u>Location</u></p> <p>Main Warehouse</p> <p>ST</p> <p>110183</p> <p>111661</p> <p>112314</p> </div> <div> <p><u>Loc Qty</u></p> <p>46</p> <p>3</p> <p>13</p> <p>30</p> </div> <div> <p><u>Loc Code</u></p> </div> </div>												

113226

111661

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 2

December 1, 2009 12:42:43 PM

Work Order ID: 54149

Parent Item: D117-762-011RevA

Parent Item Name: Skidtube

Comments:

Start Date: 02/12/2009

Required Date: 15/12/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	--------------------------	---------------	----------------	--------

AN960CT0L
washer

Purchased

No

120

Each

1,844.000 8.0000

m113288

Warehouse

Loc Qty

Loc Code

Location

OFFSHORE

FG

100.

103585

100

Main Warehouse

ST

1744

112116

536

112612

342

112933

866

D3864-1RevA

Manufactured

No

120

Each

40.0000 4.0000

97301

Pcs/16 ①

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

40

47351

40

December 1, 2009 12:42:43 PM

Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

December 1, 2009 12:42:43 PM

Work Order ID: 54149

Parent Item: D117-762-011RevA

Parent Item Name: Skidtube

Comments:

Start Date: 02/12/2009

Required Date: 15/12/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin : Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	---------------	---------------------	------------------	-----------------	--------------------	----------------	--------------------------	---------------	----------------	--------

MS21042L6		Purchased	No			120	Each	524.0000	2.0000			
-----------	--	-----------	----	--	--	-----	------	----------	--------	--	--	--



Nut

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST

524

105077

22

110002

5

111548

8

111578

400

112492

89

D117-762-041RevA

Manufactured

No



Replacement Skidtube

D3512-1RevC

Manufactured

No



Wearplate

110

Each

0.0000

1.0000



120

Each

7.0000

2.0000



Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST500

7

51390

7

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

REFERENCE ONLY

5.0 PARTS LIST

5.1 D117-762-011 Skidtube Parts List

Item	Qty -011	Qty -041	Part Number	Description
	X		D117-762-011	SKIDTUBE INSTALLATION
	1	X	D117-762-041	REPLACEMENT SKIDTUBE
1		1	D3582-041	SKIDTUBE ASSEMBLY
2	2		**1121-51002	SKID SHOE
3	2		**1121-51102	CLAMPING RING
4	8		**LN9380M8X45	HEXAGON BOLT
5	8		**LN9023A8-1.4544.9	LOCKING WASHER
6	8		**LN9025-0815K	WASHER (OR LN9025-0815L)
10		1	*D2965	CAP
11		2	***AELS-1032-225	INSERT
12		2	*AN3C5A	BOLT
13		2	*AN960C10L	WASHER
20A		1	*D3508-9	WEARPLATE
20B		1	*D3558-9	GASKET
21A		1	*D3508-3	WEARPLATE
21B		1	*D3558-3	GASKET
22A		1	*D3508-11	WEARPLATE
22B		1	*D3558-11	GASKET
23A		1	*D3508-13	WEARPLATE
23B		1	*D3558-13	GASKET
24		36	*AELS-1032-130	INSERT
25	8	28	*AN3C4A	BOLT
26	8	28	*AN960C10L	WASHER
27	2	1	D3512-1	WEARPLATE
30		2	*AELS-1032-130	INSERT
31		2	*AN4-4A	BOLT
32		2	*AN960JD416L	WASHER
40		2	*D3492-049	PLUG ASSEMBLY
41		2	***NAS1611-016	O-RING
42		2	*D3492-051	PLUG ASSEMBLY
43		2	***NAS1611-015	O-RING
44		6	*D3492-053	PLUG ASSEMBLY
45		6	***NAS1611-012	O-RING
50	2		AN4-51A	BOLT
51	4		D2972	BUSHING
52	2		MS21042L4	NUT (OR MS21042-4)

* PART IS INCLUDED WITH D3582-041 SKIDTUBE ASSEMBLY

** TO BE SUPPLIED BY CUSTOMER, LISTED AS REFERENCE ONLY

*** DENOTES PART IS INCLUDED WITH ASSEMBLY ABOVE

• COPYRIGHT © 2007 BY DART AEROSPACE USA, INC. •
 THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED
 OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

Revision: A

Date: 07.04.27

5.1
32.8

D117-762-011 SKIDTUBE PARTS LIST (IIN-D117-762)
D117-762-011 SKIDTUBE PARTS LIST (ICA-D117-762)

REFERENCE ONLY

ITEM	Qty -011	Qty -041	PART NUMBER	DESCRIPTION
	X		D117-762-011	SKIDTUBE INSTALLATION
	1	X	D117-762-041	REPLACEMENT SKIDTUBE

IS:

50	2		AN6-52A	BOLT
51	4		D3864-1	BUSHING
52	2		MS21042L6	NUT (OR MS21042-6)

WAS:

50	2		AN4-51A	BOLT
51	4		D2972	BUSHING
52	2		MS21042L4	NUT (OR MS21042-4)

TO UPGRADE A D117-762-011 SKIDTUBE FROM CHG 001 TO CHG 002, THE FOLLOWING KIT CAN BE OBTAINED FROM DART:

Qty -041	PART NUMBER	DESCRIPTION
X	DSI 9435-011	GROUND HANDLING HARDWARE CHANGE
2	AN6-52A	BOLT
4	D3864-1	BUSHING
2	MS21042L6	NUT (OR MS21042-6)

DESIGN	PH	DART AEROSPACE USA, INC PORT HADLOCK, WA
DRAWN	PH	
CHECKED		DRAWING NO. REV. A
MFG. APPR.	N/A	DSI 9435 SHEET 2 OF 2
APPROVED		TITLE SCALE
DE APPR.		GROUND HANDLING HARDWARE CHG NTS
DATE	08.12.04	COPYRIGHT © 2008 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

Work Order ID 55903

February 04, 2010 10:06:23 AM



Page 1

Item ID: D117-762-011

Accept



Setup Start



Revision ID:

Item Name: Skidtube

Stop



Start Date: 02/04/2010 Start Qty: 2.00



Cust Item ID:

Required Date: 02/11/2010 Req'd Qty: 2.00



Customer:

Reference: NCR10-011 Re-work

Approvals: Process Plan:

Date: 10-02-04

Tooling:

Date:

Run Start



QC:

Date: 10-02-04

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

N/A

Rev A

100



0.00

QC

Quality Control

Memo

Pull from stock per NCR10-011
1x B54149
1x B54150
and have re-worked.

0.00

= 7 m.h 10/02/16

(2x)

110



Assemble as per dwg

0.00

HandFinish

Hand Finishing

Memo

-Remove the D3508-9 wearplate & re-work per attached NCR w/o sheet.
**Ensure the slot is made square: 0.300" x 0.360"(maximum) towards the centerline on the most forward holes only.

0.00

> DP

10-2-11

-Debur the wearplate & touch up grey.

Work Order ID 55903

February 04, 2010 10:06:23 AM

Page 2

Item ID: D117-762-011

Accept

Revision ID:

Item Name: Skidtube

Start Date: 02/04/2010 Start Qty: 2.00

Required Date: 02/11/2010 Req'd Qty: 2.00

Reference: NCR10-011 Re-work

Cust Item ID:

Customer:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

120



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Siolek

Memo

0.00

(20)

130



HandFinish

Hand Finishing

Assemble as per dwg

0.00

Memo

Assemble the wearplate back onto the tube.

0.00

=> M-h 10/02/16

(2X)

140



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Siolek

Memo

0.00

(22)

Work Order ID 55903

February 04, 2010 10:06:23 AM



Page 3

Item ID: D117-762-011

Accept



Setup Start



Revision ID:

Item Name: Skidtube

Stop



Start Date: 02/04/2010 Start Qty: 2.00



Cust Item ID:

Required Date: 02/11/2010 Req'd Qty: 2.00



Customer:

Reference: NCR10-011 Re-work

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

150



Packaging

Identify as per dwg & Stock Location: _____

0.00

New A

Memo

0.00

Ensure the correct tube goes back into the correctly identified box.

Also ensure the corresponding kit & paperwork is included.

Re-stock using the original batch #

12/10/18 2

160



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

Add a copy of this w/o to the original w/o's as a reference.

10/02/23

mf
10-2-22

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D117-762-041 PAR #: 7 ^{See NCR 10-011} Fault Category: Prod. Skid tubes NCR: Yes ☒ No ☐ DQA: 7 Date: 10-02-04

Resolution: re-work Disposition: re-work QA: N/C Closed: _____ Date: _____

NCR: 10-011		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
10-02-04	250	Upon Assembly of the D3508-9 wear plate, it was noticed that the holes in the tube were too narrow and causing the wear plate to lift in the center when tightened.	<u>QSI/042</u>	Drill jig fuel hole angle slightly changed (came in) with use, due to mild O.D crushing on the tube from bending. DT8974 is Reworked.	<u>See NCR 10-011</u>	<u>7/10-02-04</u>	<u>QSI/042</u>	<u>7/10-02-04</u>
		R.C. Tooling.	<u>CP</u> <u>10-02-04</u> <u>QSI/042</u>	On the 2 most fuel holes on the D3508-9 wear plate, slot the holes, square, to max 0.060" (or as necessary), to allow the bolts to tighten	<u>CP</u> <u>10-2-10</u>	<u>S</u> <u>10/02/10</u>	<u>CP</u> <u>10-02-04</u> <u>QSI/042</u>	<u>7/10-02-04</u>
			<u>CP</u> <u>10-02-04</u> <u>QSI/042</u>	without any bending up of the wear plate 0.300 x 0.360 max eng. & open/slot, square to 0.060" maximum towards center line.	<u>CP</u> <u>10-2-10</u>	<u>S</u> <u>10/02/10</u>	<u>CP</u> <u>10-02-04</u> <u>QSI/042</u>	<u>7/10-02-04</u>

NOTE: Date & initial all entries